

RAW SEQUENCE LISTING

DATE: 04/04/2003

PATENT APPLICATION: US/09/762,230A

TIME: 14:23:29

Input Set : A:\FUJII Sequence listing (.txt)

Output Set: N:\CRF4\04042003\I762230A.raw

```

70 His Ala Gly Thr Arg Leu Thr Gln Gly Leu Ser Asp Pro Gln Val Glu
71          15          20          25
73 cag ctg gcc gcc aac cac cct gac ctg cgc gcc gcc atc gac gcc gct 929
74 Gln Leu Ala Ala Asn His Pro Asp Leu Arg Ala Ala Ile Asp Ala Ala
75          30          35          40
77 gcc gac gaa tac gcg cgc atc aaa ccg cag gcc gcg gca ttg ctg gac 977
78 Ala Asp Glu Tyr Ala Arg Ile Lys Pro Gln Ala Ala Ala Leu Leu Asp
79          45          50          55
81 ctg gat gaa agc gcg cag atc gcc gcc gtg cag gat ggc ttc gtc aac 1025
82 Leu Asp Glu Ser Ala Gln Ile Ala Ala Val Gln Asp Gly Phe Val Asn
83          60          65          70          75
85 ttc tat gcc gat gat gcg gtg gtg ccc tat atc gcc ctg gcc gcc cgc 1073
86 Phe Tyr Ala Asp Asp Ala Val Val Pro Tyr Ile Ala Leu Ala Ala Arg
87          80          85          90
89 ggg ccg tgg gtg gtc agc ctg aag ggc gcg gtg ctg tat gac gcc ggc 1121
90 Gly Pro Trp Val Val Ser Leu Lys Gly Ala Val Leu Tyr Asp Ala Gly
91          95          100          105
93 ggc tac ggc atg ctc ggc ttc ggc cat acc ccg gcc gat atc ctg gag 1169
94 Gly Tyr Gly Met Leu Gly Phe Gly His Thr Pro Ala Asp Ile Leu Glu
95          110          115          120
97 gcg gtc ggc aag ccg cag gtg atg gcc aac atc atg act ccc tcg ctg 1217
98 Ala Val Gly Lys Pro Gln Val Met Ala Asn Ile Met Thr Pro Ser Leu
99          125          130          135
101 gcc cag ggc cgc ttc att gcc gca atg cgc cgc gaa atc ggc cat acc 1265
102 Ala Gln Gly Arg Phe Ile Ala Ala Met Arg Arg Glu Ile Gly His Thr
103          140          145          150          155
105 cgc ggc ggc tgc ccg ttc tcg cac ttc atg tgc ctg aac tcc ggc tcc 1313
106 Arg Gly Gly Cys Pro Phe Ser His Phe Met Cys Leu Asn Ser Gly Ser
107          160          165          170
109 gaa gcg gtc ggg ctg gcc gcg cgc atc gcc gac atc aac gcc aag ctg 1361
110 Glu Ala Val Gly Leu Ala Ala Arg Ile Ala Asp Ile Asn Ala Lys Leu
111          175          180          185
113 atg acc gac ccg ggc gcc cgg cat gcc ggc gcc acg atc aag cgc gtg 1409
114 Met Thr Asp Pro Gly Ala Arg His Ala Gly Ala Thr Ile Lys Arg Val
115          190          195          200
117 gtg atc aag ggc agt ttc cac ggc cgt acc gac cgt ccg gcg ctg tat 1457
118 Val Ile Lys Gly Ser Phe His Gly Arg Thr Asp Arg Pro Ala Leu Tyr
119          205          210          215
121 tcc gat tcc acc cgc aag gcc tac gat gcg cat ctg gcc agc tac cgc 1505
122 Ser Asp Ser Thr Arg Lys Ala Tyr Asp Ala His Leu Ala Ser Tyr Arg
123          220          225          230          235
125 gac gag cac agc gtc att gcc atc gcc ccg tat gac cag cag gcc ctg 1553
126 Asp Glu His Ser Val Ile Ala Ile Ala Pro Tyr Asp Gln Gln Ala Leu
127          240          245          250
129 cgc cag gtg ttt gcc gat gcc cag gcc aac cac tgg ttc atc gag gcg 1601
130 Arg Gln Val Phe Ala Asp Ala Gln Ala Asn His Trp Phe Ile Glu Ala
131          255          260          265
133 gtg ttc ctg gag ccg gtg atg ggc gaa ggc gac ccg ggc cgt gcg gtg 1649
134 Val Phe Leu Glu Pro Val Met Gly Glu Gly Asp Pro Gly Arg Ala Val

```

RAW SEQUENCE LISTING

DATE: 04/04/2003

PATENT APPLICATION: US/09/762,230A

TIME: 14:23:29

Input Set : A:\FUJII Sequence listing (.txt

Output Set: N:\CRF4\04042003\I762230A.raw

```

135          270          275          280
137 ccg gtg gac ttc tac cgc ctg gcc cgt gag ctg acc cgc gaa cac ggc 1697
138 Pro Val Asp Phe Tyr Arg Leu Ala Arg Glu Leu Thr Arg Glu His Gly
139          285          290          295
141 agc ctg ctg ctg atc gat tgc atc cag gcc gcg ctg cgc gtg cac ggc 1745
142 Ser Leu Leu Leu Ile Asp Ser Ile Gln Ala Ala Leu Arg Val His Gly
143 300          305          310          315
145 acc ctg tcc ttc gtc gac tac ccc ggc cac cag gag ctg gag gca ccg 1793
146 Thr Leu Ser Phe Val Asp Tyr Pro Gly His Gln Glu Leu Glu Ala Pro
147          320          325          330
149 gac atg gag acc tac tcc aag gcc ctg aac ggc gcc cag ttc ccg ctg 1841
150 Asp Met Glu Thr Tyr Ser Lys Ala Leu Asn Gly Ala Gln Phe Pro Leu
151          335          340          345
153 tgc gta gtg gcc gtg acc gag cac gcc gcc gcg ctg tac cgc aag ggc 1889
154 Ser Val Val Ala Val Thr Glu His Ala Ala Ala Leu Tyr Arg Lys Gly
155          350          355          360
157 gtg tac ggc aac acc atg acc acc aac ccg cgg gcg ctg gac gtg gcc 1937
158 Val Tyr Gly Asn Thr Met Thr Thr Asn Pro Arg Ala Leu Asp Val Ala
159          365          370          375
161 tgc gcc acc ctg gca cgc ctg gat gag ccg gtc cgc aac aat atc cgc 1985
162 Cys Ala Thr Leu Ala Arg Leu Asp Glu Pro Val Arg Asn Asn Ile Arg
163 380          385          390          395
165 ctg cgt ggc cag cag gcg atg cag aag ctg gaa gca ttg aag gaa ccg 2033
166 Leu Arg Gly Gln Gln Ala Met Gln Lys Leu Glu Ala Leu Lys Glu Arg
167          400          405          410
169 ctg ggg ggc gcg atc acc aag gtg cag ggc acc ggc ctg ctg ttc tcc 2081
170 Leu Gly Gly Ala Ile Thr Lys Val Gln Gly Thr Gly Leu Leu Phe Ser
171          415          420          425
173 tgc gag ctg gcc ccg cag tac aag tgc tac ggg gcc ggc tcc acc gag 2129
174 Cys Glu Leu Ala Pro Gln Tyr Lys Cys Tyr Gly Ala Gly Ser Thr Glu
175          430          435          440
177 gag tgg ctg cgc atg cac ggg gtc aat gtg atc cac ggc ggc gag aat 2177
178 Glu Trp Leu Arg Met His Gly Val Asn Val Ile His Gly Gly Glu Asn
179          445          450          455
181 tgc ctg cgc ttc acc ccg cac ttc ggc atg gac gag gcc gaa ctg gac 2225
182 Ser Leu Arg Phe Thr Pro His Phe Gly Met Asp Glu Ala Glu Leu Asp
183 460          465          470          475
185 ctg ctg gtg gag atg gtc ggg cgt gcg ctg gtc gaa ggc cca cgc ccg 2273
186 Leu Leu Val Glu Met Val Gly Arg Ala Leu Val Glu Gly Pro Arg Arg
187          480          485          490
189 gcc tga tccgacccg caggacggaa ggcacgagcc caccgtgagg cgggctcttt gc 2331
190 Ala
192 tgcccggcac cagcggcaac aggccgcgct gtcaccggcc aggcggggcg ccggcagtgg 2391
194 gtttcagccg caggggtccg ccctgccagc gcctgcggcg gggcacaggc ttgcgggcat 2451
196 tgcggcctct gccacgggca cgcagccgga gatcaggctg acaagggggc tgccccgggt 2511
198 ggcagtacac gaccagccag ttgactgccg gtatttgctt gatcagcgct gcatccagaa 2571
200 cagcaccatc gggtgcgtga ctgacgcgcc gctggccggt gcgggacagc agcctttgcg 2631
202 tcacacgtgg ccgcacctg cctgcactgc ag 2663
204 <210> SEQ ID NO: 2

```

RAW SEQUENCE LISTING

DATE: 04/04/2003

PATENT APPLICATION: US/09/762,230A

TIME: 14:23:29

Input Set : A:\FUJII Sequence listing (.txt)

Output Set: N:\CRF4\04042003\I762230A.raw

```

205 <211> LENGTH: 6357
206 <212> TYPE: DNA
207 <213> ORGANISM: Flavobacterium lutescens
209 <220> FEATURE:
210 <221> NAME/KEY: CDS
211 <222> LOCATION: (2855)..(4387)
213 <400> SEQUENCE: 2
214 ggatcggggcc actgggctca ctgctggacg caatccgagt gccgggatgg ctcggggtga 60
216 aggtgttgcg gatcacgata ggcatactgcc gggcgatggc cgggctcatc gtctgcgggt 120
218 gcaccacatt ggcgcgaaa taggccagtt cgcaggcctc gtcatactcg agcgtggcca 180
220 gggtcaccgc ctcgggcacc acccgcggtt cggccgacag cacaccgtcg acatcggtcc 240
222 agatgtgcag ctcgggcgcc tcgaacagcg cggcaaatat cgccccgaa taatcgctgc 300
224 cgttgccggc caggttggtg atcctgcctt ggccatcac ggcgacaaaa ccggtgacca 360
226 ccaccgcga ctgcgggttg tccacacgcc aggcggccag gttggccgca ctgcgttccc 420
228 agtcgacgct gacccccagc tcgcccgttg cgaccaccag cacatcgcg gcatacgagca 480
230 ccgcgcagg gtggccgagc cgtttgaaat agcggcccag cagctgggcc gagaacacct 540
232 cgcccagccc ctgcaccctt tcaagcacct cctcgggcag gccggcgatc accgccagcg 600
234 cttccagcaa cccggccagc ttgtcaaagc gtccatccag ccaactgcagc aggtcggcag 660
236 aatcctcgcc cagcagttcg gtggccgctt catggtggcg ctggcgagg gcctgccagg 720
238 catcacgcca gcgcggctga ccgtgggcgg ccagggtagc cagctcgatc aaggcatcgg 780
240 tgacaccctt catcgccgag accaccacca cctgggtggg ttccgggccc tgcagcagca 840
242 actcggcgac atggcggtag cgctgcgccc aggccaccga ggtgccgccc aacttgtggg 900
244 cgatgacctg ggcatacgggc gcgggaagcg gagcgggtgc agcggcaggc gatgacatca 960
246 caacagacct ctgggggtga ggcccggcac cgcaggttgc gaagtcccgc aacctggtcg 1020
248 gtgcggggcc gttgttttcg ggggttagac gaatacgacg ggccgcacca gccaaagtgt 1080
250 ggtggtaatg atggatcatg cgggtgacgc agcaggcgcc agcaggcgcg cagtgggaatc 1140
252 aacggtggcg cggcagatcg acatgcagcg agcagaccgc acagcgctg ctgctgtcaa 1200
254 ctgttgcatg gcaaaataat tttccgcgca tcactggcga acatgcaccg atttggttgc 1260
256 aaatgtgatc gtcagcgatc ttctgtcaaa acccgcgat caagcgcca cagccgctgc 1320
258 ggacgcggcg gaccaccgcg cgccgatgcc agcgcggggc ggagagcaa gccgccagcg 1380
260 caaccggcca ttaccgcgcc caggcgccgg gcctgcgccc ctcaaccgtg gattttttcc 1440
262 cagcgggctg gggcctgcgc ggccagcacc accccgcccga ccaacagcgc aatggccagc 1500
264 agctccagca ggtcggggcc acgctgctgc cagatgaagc cataaagcaa cgcgaacagg 1560
266 gtttcaaaca cgatcagctg cccgcccagg ctccagcgga ggctgcgctg ggcccggttc 1620
268 cagcaggcat tgcccagcac cgaggcaccg acggccagca gcgcacagat gccggcaaag 1680
270 tgcagccact ggccctggct ctgcccagc ggcccagcc acagcgccag cggcagcaac 1740
272 agcagggcga tggccctgt ggccacccc gtcaacaacg accaggcatg cccggacagg 1800
274 tgcggatagc gccgcatcca caccacattg gcgatcgagt agccactcca ggcggccagc 1860
276 gcggccagcg cgcagagcag gccccagcacc cgctgaccga tgccttgcc agcatcgccc 1920
278 gccgcgccc cgccgtggcc gactgcagcc caggccacca gcagcgagcc cagcacacac 1980
280 aggcacagcg ccggtgccag ctgacgcaac ggcaggggcg ttggccgccc cgcattccacc 2040
282 gccgccacca ccaccggcac catgcccacg atcagcgcg cggccgccc gccagcccag 2100
284 tgcagggcca tcgccagaaa cacgaaatag accaggttgc cgagcaggct cagcccggcc 2160
286 agggccagcc aggcgcggcg atcgacctgc gcacgcagcg ccggccacaa cggcagcagc 2220
288 aacgcacagg ccaccgcacc gtacagcagg tagcggccca cggccagctg cagcgagaa 2280
290 aatgcggtg tcaaggccgg cgccaggaa accatgcccc acagggcacc ggcgagcagc 2340
292 ccgttgaaac gtccccacgc ggtctggttg ttgcgctgga tcacgctgca aggcctgca 2400
294 atgaacaaca ggccggggcg gcgcagcgca tgggcgctgg cagctctccg acctgtgcaa 2460
296 aggtggtggc cccgacacga ttcgaacgtg cgacctgtcc cttaggaggg gaccgctcta 2520

```

RAW SEQUENCE LISTING

DATE: 04/04/2003

PATENT APPLICATION: US/09/762,230A

TIME: 14:23:29

Input Set : A:\FUJII Sequence listing (.txt

Output Set: N:\CRF4\04042003\I762230A.raw

```

298 tccagctgag ctacggagcc atgaggccgg cgattctagc atccgctctc cgttcacggc 2580
300 catcgccgc agccgcagtt cacagtgcag ggcaaccgca gcaagcccc gcccgctgc 2640
302 aaccctcgcg cccgcgcgca acgtgaccgg cgccgcggca ggcccgcccc ccacggccac 2700
304 tggcgccgggt tccgcaccac gccaccggca acacgcccc agccctgccc aacgtggtgt 2760
306 ttcagcgctc tgtaaagatg gcatgcccac atgccacctc cccccggacg cgccgcgggt 2820
308 gcgtgacctt ttcgtaacgt aatctggagt ttcc atg tcg ttt gaa ctg ctc aag 2875
309 Met Ser Phe Glu Leu Leu Lys
310 1 5
312 gcc tta ggg ctg gac gcc acc aat tcc ggc acc tac ctg ggt gat gga 2923
313 Ala Leu Gly Leu Asp Ala Thr Asn Ser Gly Thr Tyr Leu Gly Asp Gly
314 10 15 20
316 gaa tgg tcc agc gct acc ggt gcc ggg acc atc agc ccg cgc aac ccg 2971
317 Glu Trp Ser Ser Ala Thr Gly Ala Gly Thr Ile Ser Pro Arg Asn Pro
318 25 30 35
320 acc acc ggc gag gtc att gcc cag gtc cag gcc acc acc gag gcg gac 3019
321 Thr Thr Gly Glu Val Ile Ala Gln Val Gln Ala Thr Thr Glu Ala Asp
322 40 45 50 55
324 tac gaa acc atc ctg gcc cgc gcc cag cag gcc ttc aag gtc tgg cgc 3067
325 Tyr Glu Thr Ile Leu Ala Arg Ala Gln Gln Ala Phe Lys Val Trp Arg
326 60 65 70
328 acc acc ccg gca ccg cgc cgc ggc gag gcc atc cgc ctg tgt ggc gag 3115
329 Thr Thr Pro Ala Pro Arg Arg Gly Glu Ala Ile Arg Leu Cys Gly Glu
330 75 80 85
332 gcc ctg cgc cgc cac aag gac gcg ctg ggt tcg ctg gtc gcg ctg gaa 3163
333 Ala Leu Arg Arg His Lys Asp Ala Leu Gly Ser Leu Val Ala Leu Glu
334 90 95 100
336 atg ggc aag tcc aag ccg gaa ggc gac ggc gaa gtc cag gaa atg atc 3211
337 Met Gly Lys Ser Lys Pro Glu Gly Asp Gly Glu Val Gln Glu Met Ile
338 105 110 115
340 gac atc gcc gac ttt gcc gtc ggc cag agc cgc atg ctg tat ggc tac 3259
341 Asp Ile Ala Asp Phe Ala Val Gly Gln Ser Arg Met Leu Tyr Gly Tyr
342 120 125 130 135
344 acc atg cac agc gag cgc ccc ggc cac cgc atg tac gag cag tac cag 3307
345 Thr Met His Ser Glu Arg Pro Gly His Arg Met Tyr Glu Gln Tyr Gln
346 140 145 150
348 ccg ctg ggc atc gtc ggc atc atc tcg gcc ttc aac ttc ccg gtc gcg 3355
349 Pro Leu Gly Ile Val Gly Ile Ile Ser Ala Phe Asn Phe Pro Val Ala
350 155 160 165
352 gtc tgg gcc tgg aac agc ttc ctg gcc gcg atc tgt ggt gat gtc tgc 3403
353 Val Trp Ala Trp Asn Ser Phe Leu Ala Ala Ile Cys Gly Asp Val Cys
354 170 175 180
356 atc tgg aag ccg tcc aac aag acc ccg ctg acc gcg atc gcg tcc atg 3451
357 Ile Trp Lys Pro Ser Asn Lys Thr Pro Leu Thr Ala Ile Ala Ser Met
358 185 190 195
360 cgc atc tgc aac gaa gca ctg cgc gaa ggc ggc ttc ccg gac atc ttc 3499
361 Arg Ile Cys Asn Glu Ala Leu Arg Glu Gly Gly Phe Pro Asp Ile Phe
362 200 205 210 215
364 ttc ctg atc aac gac gcc ggc acc gcg ttg tcg gag aag ctg gtc gag 3547
365 Phe Leu Ile Asn Asp Ala Gly Thr Ala Leu Ser Glu Lys Leu Val Glu

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 04/04/2003
PATENT APPLICATION: US/09/762,230A TIME: 14:23:30

Input Set : A:\FUJII Sequence listing (.txt)
Output Set: N:\CRF4\04042003\I762230A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:8; N Pos. 6,9,12,15,18,21,27,30
Seq#:9; N Pos. 3,9,12,15,18,21,24,27,30

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 13,15,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36
Seq#:1; Line(s) 37,38,39,40,41,42,43,44,45,46,47,49,50,51,52,53,54,55,56,57
Seq#:1; Line(s) 58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77
Seq#:1; Line(s) 78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97
Seq#:1; Line(s) 98,99,100,101,102,103,104,105,106,107,108,109,110,111,112
Seq#:1; Line(s) 113,114,115,116,117,118,119,120,121,122,123,124,125,126,127
Seq#:1; Line(s) 128,129,130,131,132,133,134,135,136,137,138,139,140,141,142
Seq#:1; Line(s) 143,144,145,146,147,148,149,150,151,152,153,154,155,156,157
Seq#:1; Line(s) 158,159,160,161,162,163,164,165,166,167,168,169,170,171,172
Seq#:1; Line(s) 173,174,175,176,177,178,179,180,181,182,183,184,185,186,187
Seq#:1; Line(s) 188,189,191,192,193,194,195,196,197,198,199,200,201,202,203
Seq#:1; Line(s) 204
Seq#:2; Line(s) 205,206,207,208,209,210,211,212,213,214,215,216,217,218,219
Seq#:2; Line(s) 220,221,222,223,224,225,226,227,228,229,230,231,232,233,234
Seq#:2; Line(s) 235,236,237,238,239,240,241,242,243,244,245,246,247,248,249
Seq#:2; Line(s) 250,251,252,253,254,255,256,257,258,259,260,261,262,263,264
Seq#:2; Line(s) 265,266,267,268,269,270,271,272,273,274,275,276,277,278,279
Seq#:2; Line(s) 280,281,282,283,284,285,286,287,288,289,290,292,293,294,295
Seq#:2; Line(s) 296,297,298,299,300,301,302,303,304,305,306,307,308,309,310
Seq#:2; Line(s) 311,312,313,314,315,316,317,318,319,320,321,322,323,324,325
Seq#:2; Line(s) 326,327,328,329,330,331,332,333,334,335,336,337,338,339,340
Seq#:2; Line(s) 341,342,343,344,345,346,347,348,349,350,351,352,353,354,355
Seq#:2; Line(s) 356,357,358,359,360,361,362,363,364,365,366,367,368,369,370
Seq#:2; Line(s) 371,372,373,374,375,376,377,378,379,380,381,382,383,384,385
Seq#:2; Line(s) 386,387,388,389,390,391,392,393,394,395,396,397,398,399,400
Seq#:2; Line(s) 401,402,403,404,405,406,407,408,409,410,411,412,413,414,415
Seq#:2; Line(s) 416,417,418,419,420,421,422,423,424,425,426,427,428,429,430
Seq#:2; Line(s) 431,432,433,434,435,436,438,439,440,441,442,443,444,445,446
Seq#:2; Line(s) 447,448,449,450,451,452,454,455,456,457,458,459,460,461,462
Seq#:2; Line(s) 463,464,465,466,467,468,469,470,471,472,473,474,475,476,477
Seq#:2; Line(s) 478,479,480,481,482,483,484,485,486,487,488,489,490,491,492
Seq#:2; Line(s) 493,494,496,497,498,499,500,501,502,503,504,505,506,507
Seq#:3; Line(s) 508,509,510,511,512,513,514,515,516,517,518,519
Seq#:4; Line(s) 520,521,522,523,524,527,528,531
Seq#:5; Line(s) 532,533,534,535,536,539,540,541,542,543
Seq#:6; Line(s) 544,545,546,547,548,550,551
Seq#:7; Line(s) 559



Creation date: 12-23-2003
Indexing Officer: TROBINSON - TERRI ROBINSON
Team: OIPEBackFileIndexing
Dossier: 09762230

Legal Date: 04-08-2002

No.	Doccode	Number of pages
1	M903	2

Total number of pages: 2

Remarks:

Order of re-scan issued on